

## CASE STUDY

# How a Multi-Billion-Dollar, Global Warehouse Retailer Reduced Storage Risk and Disruption With a Denali Health Check Assessment

## Legacy Storage Reaches Its Limits

Retail is a real-time business that demands infrastructure reliability to move products from the supply chain to the point of purchase. As retailers embrace digital technologies to deliver cross-channel sales experiences, legacy storage infrastructure has become overprovisioned, operating near or at capacity. As new data is generated across sales channels and edges, legacy storage arrays struggle to support new workloads, causing latency and outages that affect retail operations.

Such was the case for a global warehouse retailer. The retailer had run out of space in storage arrays, and capacity planning had become reactive rather than proactive. The storage environment had evolved and included a mix of vendors and technologies without any centralized insight or management tools to identify problems before they turned into downtime. On top of the technology challenge, there was a staffing issue. The retailer didn't have dedicated personnel to evaluate, manage, and optimize the lifecycle of storage investments.

## A Storage Health Check Reveals Unexpected Surprises

The retailer wanted a third-party storage assessment to detect performance issues and recommend upgrades aligned with best practices. The retailer reached out to Denali for a Storage Health Check Assessment to generate a technical readout of their current environment with recommended upgrades.

Denali engineers used Dell EMC Live Optics software to perform a complete evaluation of the existing storage infrastructure and to gain insight into capacity and performance. Upon inspection, engineers found capacity issues and upgrade opportunities across Dell EMC VMAX, Dell EMC Data Domain, and Dell EMC Isilon architectures, as well as VMware vCenter. Specifically, they found:

- Multiple Dell EMC VMAX arrays were at or near end of life (EOL), with 90% of the 16 TB of cache used. Additional Dell EMC VMAX arrays were also overutilized.
- Four Dell EMC Data Domain deduplication storage arrays were at critical utilization. Others had network bonding pair issues, were running outdated plugins, and needed firmware updates.
- VMware vCenter had abnormal network connectivity, vSphere servers were underutilized for CPU and RAM, and 1.5 PB of reclaimable space was found across the virtual environment.
- Dell EMC Isilon scale-out NAS with an add-on for Splunk had nodes that were at EOL.



## OVERVIEW

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### Challenge:

A global wholesale retailer was experiencing storage outages due to overcapacity, end-of-life arrays.

### Solution:

The retailer took a Storage Health Check Assessment from Denali for capacity planning, risk mitigation, and performance analysis.

### Results:

The retailer received an in-depth technical readout of the entire storage environment with trending analysis and recommendations for lifecycle upgrades.

## A Proactive Plan Puts Storage on a Healthy Course

Denali engineers provided the retailer with a comprehensive technical readout of the entire environment. The report detailed areas of risk categorized from low to high. For every problem, Denali engineers advised on mitigation and upgrades based on industry best practices. The report also detailed a capacity-planning strategy to futureproof the environment.

For Dell EMC VMAX servers at EOL, Denali engineers recommended an upgrade to Dell EMC PowerMax all-flash enterprise storage with end-to-end NVMe to boost storage performance for current and future workloads. For Dell EMC Data Domain, they suggested expanding capacity for hosts at 80% or higher utilization and consolidation of other hosts on single-instance servers with networking redundancy across the environment.

Denali engineers further recommended that Dell EMC Isilon firmware be updated and that EOS Splunk nodes be migrated to updated nodes. For VMware vCenter, engineers suggested installing the Dell EMC VSI Plugin for vCenter to assist in reclaiming disk space.

And to ease monitoring of the complex environment, Denali recommended using virtualization tools to monitor and automate management across physical and virtual environments through a single pane of glass. It also suggested the retailer hire two additional IT staffers dedicated to storage and virtualization oversight.

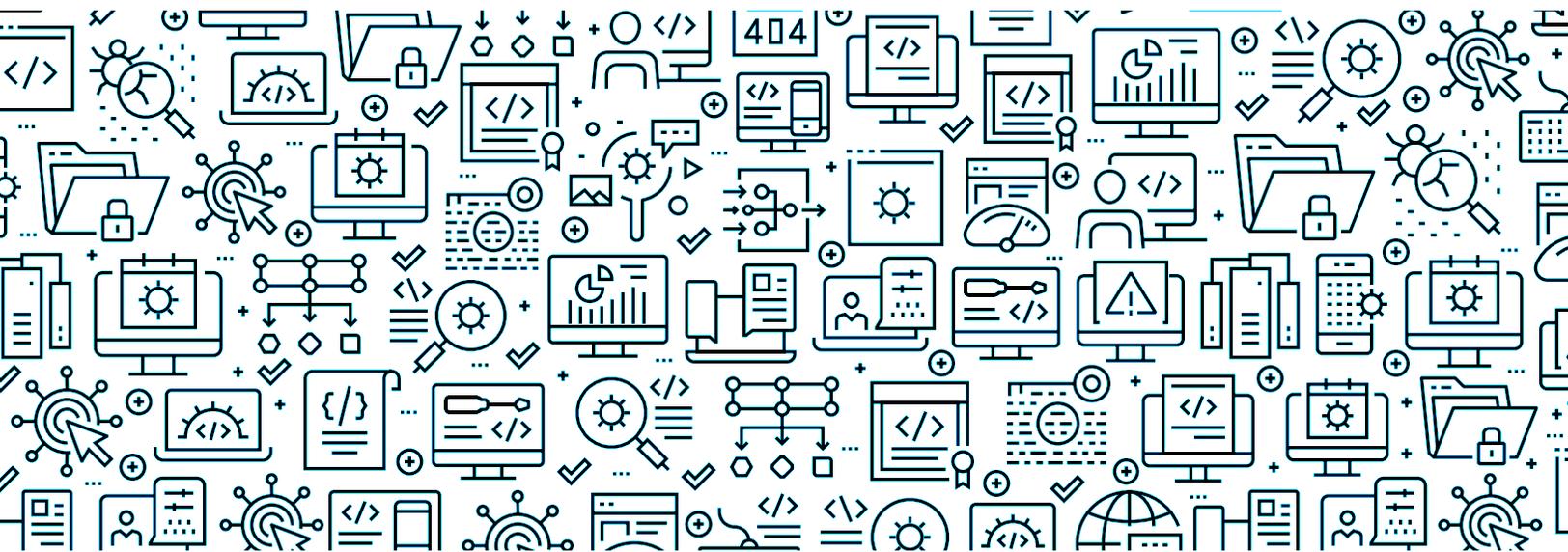
The retailer moved from storage outages and reactive repairs to a proactive lifecycle and capacity plan with the Denali Storage Health Check Assessment completed. As a result, the enterprise could mitigate future risks and align storage capacity with business needs. This ensured reliable, resilient, and scalable storage capability to bolster retail expansion and competitive operations.

## About Denali

Denali Advanced Integration delivers exceptional technology solutions and services powered by strategic experts and industry-leading partners to help guide our clients through the most complex IT challenges. Since 1992, Denali has been among the most trusted and prominent technology providers in North America.

**Call 425.885.4000 to learn more about Denali Storage Health Check Assessments.**

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